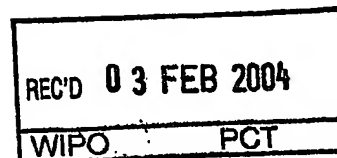




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PROVISIONAL SPECIFICATION

Applicant:

UNITAB LIMITED
A.C.N. 085 691 738

Invention Title:

A METHOD FOR MULTIPLE DEVICES

The invention is described in the following statement:

A METHOD FOR MULTIPLE DEVICES

The present invention relates to gaming systems such as those incorporating gaming machines including slot machines, poker machines, keno machines and others. The invention also relates to internet gaming using personal computers and other devices.

The present invention is particularly relevant to jackpot gaming systems in which a number of electric gaming machines (EGM's) are networked. These gaming systems can be externally triggered promotional jackpots, EGM triggered jackpots and externally triggered regulatory jackpots.

EGM triggered jackpots require EGM's specifically made for this purpose. Accordingly a club wishing to offer this facility with their EGMs must purchase new ones that offer this feature. All EGMs participating in a linked jackpot of this type typically must be of the same type, e.g. manufacturer and game. Furthermore they tend to have a relatively limited configurability in terms of prize values, return to player, number of levels and themes.

In contrast to the EGM triggered jackpots, externally triggered jackpots have a much greater degree of flexibility and therefore attractiveness to gaming venues.

In many jurisdictions however the winnings paid in promotional external jackpots are not deductible for gaming tax purposes. This is because promotional jackpots do not offer the required fairness (statistically equal probability of win per unit bet for all players at all times, i.e. non-deterministic) to be considered tax deductible regulatory jackpots. A typical promotional jackpot uses simple deterministic triggering methods such that the jackpot is guaranteed to go off within a certain amount of turnover. Conventionally the implementation of externally triggered regulatory jackpots has been difficult due to the requirement for non-deterministic

behaviour. Furthermore meeting the regulatory jackpot requirements is difficult when the EGMs participating in the jackpot are of different denominations and/or offer a variety of bets (multi-line and/or ability to select
5 number of credits to bet on each play) and also when the communications between the EGM and the external jackpot trigger do not guarantee play by play delivery of information.

Australian patent application AU1999434453
10 discloses a prize awarding system which addresses the problems experienced by the above non-deterministic jackpot systems.

In this patent application a random process is implemented with the desired statistical properties based
15 on the actual occurrence of turnover. While such methods attempt to reduce computational load and critical timing requirements compared to jackpots that are triggered off specific plays of an EGM, there is still significant software complexity, computational load and real time
20 requirements associated with these methods. In addition the actual statistical properties of the jackpot depend critically on details of the implementation and the system on which it runs. Verification of correct jackpot operation under all patterns of play and system load is
25 time consuming and itself requires statistical analysis to interpret the results.

Another Australian patent number 589158 describes a system which consists of a number of poker machines producing an incrementing signal which is totalled by a
30 counting means. A jackpot is triggered when the counting means reaches a predetermined value, with the jackpot being awarded to the machine that caused the increment to go over the trigger value. However the system described in this patent application has a number of drawbacks.
35 Firstly the jackpot prize cannot be a fixed value. It is always dependent upon the amount of turnover before the trigger value is reached by the counting means. In

addition it is noted that the jackpot is triggered from a combined count from each of the EGMs.

In the above system the jackpot is triggered based on a uniform distribution for the random number
5 which is used as the trigger value.

In addition, the random number range used must have a lower bound of the jackpot minimum display/prize value and an upper bound of the maximum desired display/prize value, leading to the situation that as the
10 display value approaches, the maximum probability of the win inherently increases.

It would be desirable to produce an improved gaming system.

For convenience any game playing module, whether
15 this be a mechanical device such as an electronic gaming machine or a graphical user interface appearing on a PC or similar linked to the internet or other communication network, will be referred to as a gaming console.

It is to be understood that, if any prior art
20 publication is referred to herein, such reference does not constitute an admission that the publication forms a part of the common general knowledge in the art, in Australia or in any other country.

According to one aspect of the present invention
25 there is provided a method of awarding a prize in a gaming system including a plurality of game controllers comprising the steps of providing a trigger value derived from a random variable having a non-uniform distribution, periodically receiving count data from each game console,
30 being data representing at least one parameter of a game console, calculating a total value representing the total count data received, comparing the total value with the trigger value, transmitting a prize instruction signal to an output means if the total value has a predetermined
35 relationship with the trigger value [and outputting from the output means the prize instruction signal to at least one game console], whereby the prize instruction signal

results in at least one game console issuing a prize.

Preferably the non-uniform distribution is a geometric distribution.

5 Preferably the prize instruction signal is output from the output means to at least one game console.

The prize instruction signal may include a prize display signal and a game console signal for updating one or more of the game consoles.

10 It is preferred that the output means is connected to a display means which indicates that a prize has been won by the at least one game console.

The display means may include a sign, an audio visual indication or some other method which does not need to interact with the one game console.

15 Preferably the random variable is added to a predetermined offset value to produce the trigger value.

Preferably the offset value is calculated and stored in a memory location prior to addition to the random variable.

20 The random variable may have a distribution which is modified by a function to generate a value with a geometric distribution.

Preferably the function includes an inverse geometric distribution.

25 It is preferred that the prize is determined independently of the count data.

30 Preferably the prize instructions signal is output to one or more of the gaming consoles based on each gaming console from which count data was received which resulted in the total value having the predetermined relationship with the trigger value.

35 Therefore according to one example a particular combination or sequence of count data received from gaming consoles could result in the total value having the predetermined relationship with the trigger value and this may result in more than one game console issuing a prize because they were part of the count data sequence required

to produce the prize instruction signal.

Preferably the method includes storing the identity of each gaming console from which count data is received.

5 The method may include storing the identity of the trigger gaming console, being the gaming console from which count data is received which results in the total value having the predetermined relationship with the trigger value.

10 The method preferably includes outputting the prize instruction signal to one or more game consoles based on the identity of the trigger gaming console.

 Preferably the method includes outputting the prize instruction signal to the/each trigger gaming
15 console.

 The method may include receiving count data from each gaming console.

 Preferably the count data is collected synchronously with game play on each gaming console.

20 Alternatively count data is collected asynchronously with game play on one/more gaming consoles.

 It is preferred that the comparing step is performed synchronously with playing one/more gaming consoles.

25 Alternatively the comparison step is performed asynchronously with playing the gaming console.

 The comparing step may be performed synchronously with receiving count data.

 Alternatively the comparing step may be performed
30 asynchronously with receiving count data.

 It is preferred that the predetermined relationship is that the total value is equal to the trigger value.

35 Alternatively the predetermined relationship is that the total value is a multiple of the trigger value.

 Alternatively the predetermined relationship is that the total value is related to the trigger value

through a mathematical relationship.

According to another embodiment the predetermined relationship is that the total value is greater than the trigger value.

5 According to another embodiment the predetermined relationship is that the total value has a sequence of count data which matches the sequence of the trigger value. For example the trigger value could be one gaming console or a number of gaming consoles together producing
10 a sequence of pay outs, symbols, or game plays such as three lines followed by five lines, followed by one line if the gaming consoles are configured by manufacturers to output signals indicative of this.

 Preferably the count data represents one game
15 played on one game console.

 According to one embodiment the count data represents multiple games played on one game console.

 Alternatively the count data represents one event occurring on one game console.

20 Alternatively the count data represents one event occurring on greater than one game console.

 Alternatively the count data represents a predetermined number of games played on one or more gaming consoles.

25 Alternatively, the count data represents a predetermined amount of turnover occurring on one gaming console.

 Preferably parameters of the count data include any one or more of the above recited alternatives relating
30 to count data.

 The parameters preferably include:

 a predetermined amount of money spent/gambled on a gaming console.

35 a predetermined number of indicia arrangements on a gaming console;

 a predetermined combination of events on different gaming consoles;

each time a gaming console is played;
a predetermined turnover of gaming consoles or
predetermined function of turnover.

Preferably the method includes the step of
5 receiving count data from each gaming console in the
gaming system.

The method may include gaming consoles which are
electronic gaming machines, internet based gaming consoles
visible on a computer screen, lotto type display screens,
10 hardware based, software based or any combination thereof.

The method may also include loyalty systems and
may therefore include transaction terminals such as those
associated with EFTPOS or Visa. Every time a customer
makes a transaction count data could be transmitted to a
15 central console whereby a person has a chance of winning a
jackpot in accordance with the invention broadly described
above.

The gaming system may include a plurality of
gaming consoles linked in a network or through remote
20 communication means such as the internet.

The gaming system may include a controller, a
trigger value generator, a jackpot triggering means and a
display means separate from each gaming console.

Preferably the system includes a storage means
25 for storing count data.

The method may include providing an accumulator
for totalling the count data stored in the storage means.

The accumulator preferably is part of the storage
means.

30 The method may include providing a controller to
provide the random trigger value.

The method may include receiving count data each
time a game console is played.

It is preferred that the offset is only needed to
35 achieve behaviour equivalent of that that would be
obtained if the count was reset each time a new trigger
value was picked from the random number generator. Thus,

the trigger value may be derived according to anyone of the following options:

- 5 a. Adding the offset to the value obtained from the random number generator to obtain the trigger value;
- b. Calculating a derived count equal to the raw count minus the offset and compare the derived count to a trigger value obtained directly from the random number generator; and
- 10 c. Resetting the count to zero every time a new trigger value is obtained directly from the random number source.

The random value may be calculated based on a parameter indicative of the probability of a win.

- 15 Preferably the total value represents the total number of games played on each game console.

The random value may be calculated to have a predetermined geometrical probability distribution.

- 20 Preferably the method includes at a predetermined time interval providing a new random trigger value.

The method may include providing a new random trigger value after at least one game controller issues a prize.

- 25 The method may include calculating a random value having one probability distribution and transforming the random value by a predetermined function to generate a random value with a different probability distribution.

Preferably the random value is not uniformly distributed.

- 30 The random value may be generated from a pseudo random number generator.

It is preferred that the trigger value is reset more frequently than once per output of the prize instruction signal to one/more game console.

- 35 The offset value may be set at the current total value.

The offset value and the random value may be

selected and a trigger value reset whenever a prize instruction signal is sent to one or more predetermined game controllers.

5 It is preferred that count data is reset to a predetermined number such as 0 after a prize instruction signal is output.

Preferably the random value is recalculated after a prize instruction signal is output.

10 Preferably the random value is recalculated after the prize instruction signal is output whereby the trigger value is greater than the total value.

15 Preferably the predetermined prize includes one or more of money, extra games on a game console, calculated start up amount, a percentage of turnover from one/more game console.

The prize may be reset to a start up amount when the prize instruction signal is output.

20 According to another aspect of the present invention there is provided a controller for use in a gaming system, the controller comprising a trigger value, a generator for generating a random trigger value at predetermined times, a receiver for receiving count data, from each game console, being data representing at least one parameter of a game console, a calculating means for
25 calculating a total value representing the total count data received by the receiver, a comparator for comparing the total value with the trigger value and a processor for outputting a prize signal to at least one game console if the total value has a predetermined relationship with the
30 trigger value.

Preferably the processor is adapted to output a prize signal to the game console from which count data was received which resulted in the total value having the predetermined relationship with the trigger value.

35 Preferably the predetermined relationship may be one of the options previously defined.

Preferably the trigger value generator is adapted

to periodically select a value of a random variable, calculate an offset value and add this to the random variable to produce the trigger value.

Preferably the trigger value is determined independent of turnover of the gaming system.

Preferably the random variable has a minimum value of 1.

According to another aspect of the present invention there is provided a gaming system comprising a plurality of game consoles, a trigger value generator for generating a trigger value, a prize triggering means, and a controller which is adapted to periodically receive count data from each game console, being data representing at least one parameter of a game console, calculate a total value representing the total count data received by the receiver and compare the total value with the trigger value and operate the prize triggering means to transmit a prize instruction signal to at least one game console if the total value has a predetermined relationship with the trigger value.

Preferably the controller is adapted to operate the prize trigger means to transmit the prize instruction signal to one of the game consoles from which count data was received which resulted in the total value having the predetermined relationship with the trigger value.

It is preferred that the gaming system includes one or more means for implementing one or more of the methods previously outlined.

A preferred embodiment of the present invention will now be described by way of example only with reference to the accompanying drawings in which:

Figure 1 shows a schematic representation of a gaming system according to a preferred embodiment of the present invention;

Figure 2 shows the gaming system according to a second embodiment of the present invention; and

Figure 3 shows a flow diagram of the gaming

system according to the preferred embodiment of the present invention.

Figure 1 shows a gaming system 10 having three EGMS 11, 12, 13 which are linked to a gaming system controller 14. This gaming system controller 14 consists of a site controller device 15, a jackpot trigger device 16 and a jackpot prize calculator 17.

An overhead display 18 is also provided above each of the EGMS 11, 12, 13.

In operation the site controller 15 receives meter information from each of the EGMS over a communications network such as that utilising fibre optics, ethernet or RS485. In this embodiment the meter information includes a meter representing the cumulative turnover of the gaming machine since it was commissioned.

The site controller monitors and stores the latest value of the EGM meters and in particular the turnover meter.

The site controller sends the latest turnover meter value for each EGM to the jackpot trigger device 16.

An accumulator located in the jackpot trigger device stores a turnover meter value for each EGM.

In addition the jackpot trigger device calculates a total accumulated value representing total meter turnover value for all of the EGM's 11, 12, 13.

Each time any one of the meter values is incremented, the site controller passes on this incremental change to the jackpot trigger device which in turn recalculates the total accumulated value. In addition total meter values are stored for each EGM, being a meter value to date. Thus the jackpot trigger device records the total turnover value of the gaming system at any particular instant as well as the total turnover value for each machine at any instant.

The jackpot trigger device also stores a jackpot trigger value which it calculates.

A comparator in the jackpot trigger device

compares the current total accumulated value with the trigger value and if the total has reached or exceeded the trigger value the jackpot trigger device outputs a jackpot win signal to the EGM from the which the last incremented
5 count value was received by the site controller and which resulted in the total accumulated value equalling or exceeding the trigger value.

In one situation the jackpot win would be awarded by the jackpot trigger device when the total accumulated
10 value was equal to the trigger value. However, in some circumstances the total accumulated value would have to exceed the trigger value in order for the jackpot trigger device to award a jackpot win.

When the jackpot trigger device outputs a jackpot
15 win signal this is transmitted to the winning EGM as well as to the overhead display device 18. This results in an appropriate display on both the winning EGM and the overhead display for the purposes of indicating the jackpot win.

20 The jackpot trigger value is calculated in a random selection process.

Typically the jackpot prize calculator obtains a random value from a random number generator based on an appropriate probability distribution. For the purposes of
25 this embodiment a uniform distribution is used. The result is then modified by an inverse distribution function to give the desired geometric distribution.

According to the preferred embodiment the random number generator follows a geometric distribution model.
30 Thus if the random generator has a discreet ransom variable X to follow a geometric distribution with a probability parameter P between 0 and 1, the trials must meet the following requirements:

- a. The total number of trials is potentially
35 infinite;
- b. There are just two outcomes of each trial success and failure;

c. The outcomes of all the trials are statistically independent; and

d. All the trials have the same probability of success.

5 In this embodiment the geometric distribution has the desirable property that the resulting probability of a win per unit of turnover is constant. In probability terms each unit of turnover is considered a trial and hence P is set to the desired probability of win per unit
10 of turnover. The result from the random number generator is added to a turnover offset value to give the jackpot trigger value.

As shown in Figure 3 the system may incorporate software and/or hardware which controls operation of each
15 of the EGM's and issuing of a jackpot prize. Initially at system start up in step 25, the total turnover for the system is set to zero in step 26. In step 27 and in step 28 the site controller polls each EGM to receive the latest turnover value of each EGM's turnover meter. The
20 value for each EGM turnover meter is then added to a total turnover meter located in the jackpot trigger device.

The jackpot trigger device in step 29 calculates a random value which is based on the value from a random source transferred to have a geometric distribution. The
25 trigger value is then calculated in step 30 by adding the random value to the total turnover value as received from the total turnover meter.

Once the turnover meter values have been received from each EGM the total turnover meter of the jackpot
30 trigger device has been fully updated and in step 31 updating of this meter is completed. In step 32 if there is a change in the meter value of any EGM this is passed onto the site controller which in step 33 sets a new turnover value for the total turnover meter.

35 In a typical polling method of ascertaining the meter value for each EGM, in step, 34 if polling results in the previous turnover for an EGM equalling the new

turnover, then the total turnover meter updating is complete. If however the previous turnover does not equal the new turnover then the new value for the total turnover meter is set to a total turnover value currently stored
5 minus the previous turnover for the EGM plus the new turnover in step 35. This means that if there has been an incremental increase in the turnover meter this is added to the total turnover value.

10 In step 36 the total turnover value is then compared to the trigger value and if it does not exceed the trigger value then updating is complete, however if the total turnover value is greater than or equal to the trigger value then a signal is transmitted from the jackpot trigger device to the winning EGM enabling a
15 jackpot win to be displayed in step 37. This results in resetting of the trigger value by recalculation of the random value as previously described in relation to steps 29 and 30.

20 Because the trigger value is randomly selected it is theoretically possible for any person playing one of the EGMS 11, 12, 13 to win a jackpot at any time regardless of the amount of turnover generated by the EGMS. However because knowledge of the trigger value allows prediction of when the next win will occur it is
25 important that this trigger value remains secret.

If there is a security risk and at a particular time someone is able to work out the trigger value, one option is to periodically change the trigger value so that the security breach would have to occur consistently to
30 know whether the trigger value had changed.

Whenever the jackpot trigger device awards a jackpot by sending an appropriate signals to the EGMS, the trigger value is reset and the jackpot trigger device and the jackpot prize calculator calculates a new trigger
35 value and sends this to the jackpot trigger device.

In figure 2 a gaming system is shown consisting of separate groups of gaming machines in different

locations. Thus one group of gaming machines 20 may be located at one premises and one group of gaming machines may be located at a different premises.

Each group of gaming machines would have a site
5 controller and jackpot trigger device 22, 23 and would be linked through a communication system to a central controller 24 which is able to provide the trigger value.

The same or different trigger values may be sent to each group of EGMs at the different premises.

10 Alternatively a central jackpot trigger device may be located at the central control station 24 so that each group of gaming machines may be linked together to allow a larger jackpot prize to be awarded. This set up would have the advantage of increased security as trigger
15 value setting and comparison with total accumulated turnover value would be calculated off site.

In this embodiment the local jackpot trigger device would have the main function of issuing the jackpot signal to the appropriate machine(s). The preferred
20 embodiment has been described for a gaming system incorporating a number of gaming machines. However, the invention is equally applicable to a single gaming machine and how it offers a jackpot prize. Thus Figure 1 would be modified to show a single EGM with the remaining
25 components the same. Therefore the site controller would simply receive metering information regarding the number of times the EGM is played and this would be sent to the jackpot trigger device. When the total accumulated value equalled or exceeded the trigger value, a jackpot would be
30 awarded to the EGM.

Generally a jackpot triggering device will be networked to multiple EGMs. However in the networking example of Figure 2 multiple jackpot triggering devices may be networked to a single jackpot prize calculator
35 device.

The jackpot prize calculator can be omitted if the prize amount is fixed.

For a so-called progressive jackpot, the jackpot prize calculator device calculates the prize value from a start up amount and a percentage of the amount bet on participating EGMS. If there is only a single jackpot triggering device it may be combined with the jackpot prize calculator device to form a self-contained jackpot controller.

Where the gaming system includes a monitoring device for a site or group of machines, this site controller device and the jackpot trigger device may also advantageously be combined as a single unit. The system may also incorporate the feature of separate in machine displays to provide additional capabilities including a feature game, the outcome of which determines the prize awarded to the winning player.

It is preferred that the preferred embodiment of the present invention has at least one of the following advantages:

- i. The jackpot prize/display may be fixed value.
- ii. The jackpot does not have to be triggered off the combined count from a number of EGMS. Instead a subset of the combined EGMS is able to independently trigger the jackpot win.
- iii. The rate or time at which the count is updated need not have any impact on the win statistics and need not be the same for each EGM. This would be of particular advantage when using a jackpot triggering device which communicates with the actual gaming machines over a network.
- iv. The statistical properties of the system can be tailored to meet market regulatory or other requirements. In particular a non-deterministic jackpot offering a constant probability of win per unit bet can be implemented using this apparatus.
- v. Other novel win distributions can be generated using the same system. For example, a

distribution with a high probability of win around its mean value and a very low probability of win for low and high values would reduce the variance in the win amount for a progressive jackpot, and in the frequency of wins, reducing the risk of either frequent or high valued wins to the jackpot operator. Conversely, a distribution with a high probability of win for small and large values, would give additional player excitement due to its tendency to have periods of frequent wins interspersed with the progressive prize reaching a high value.

vi. In contrast to other non-deterministic jackpot triggering methods the win decision can be made instantaneously. The win decision does not inherently lag behind turnover as it does in systems using a time window, which must use a very short time window, increasing computation of load, and/or having additional complexity to deal with "deferred" or "pending" wins or otherwise prevent "walk away".

vii. Timing precision is not required to obtain correct win probability.

Based on the above it is apparent that changes and modifications may be made to each of the embodiments described. In particular the particular parameters of an EGM or group of EGMS that is recorded/received by the site controller and transferred to the jackpot triggering device can be quite varied. Therefore a cumulative turnover value may be recorded and compared with a trigger value or count values indicative of the number of times one or more of the EGMS is played. Furthermore, the parameters of the EGMS which can be monitored include those relating to the arrangement of symbols appearing in the display as well as predetermined sequences of events such as minor prizes being issued.

Variations and modifications can be made in respect of the invention described above and defined in the following statement of claim:

1. A method of awarding a prize in a gaming system including at least one game controller comprising the steps of providing a random trigger value at predetermined time periods, periodically receiving count data, from at least one game console, being data representing at least one parameter of a game console, calculating a total value representing the total count data received, comparing the total value with the trigger value, transmitting a prize instruction signal to an output means if the total value has a predetermined relationship with the trigger value and outputting from the output means the prize instructions signal to at least one game console, whereby the prize instruction signal results in at least one game console issuing a prize.

Dated this 24th day of January 2003

20 UNITAB

By its Patent Attorneys

GRIFFITH HACK

Fellows Institute of Patent and
Trade Mark Attorneys of Australia

FIGURE 1

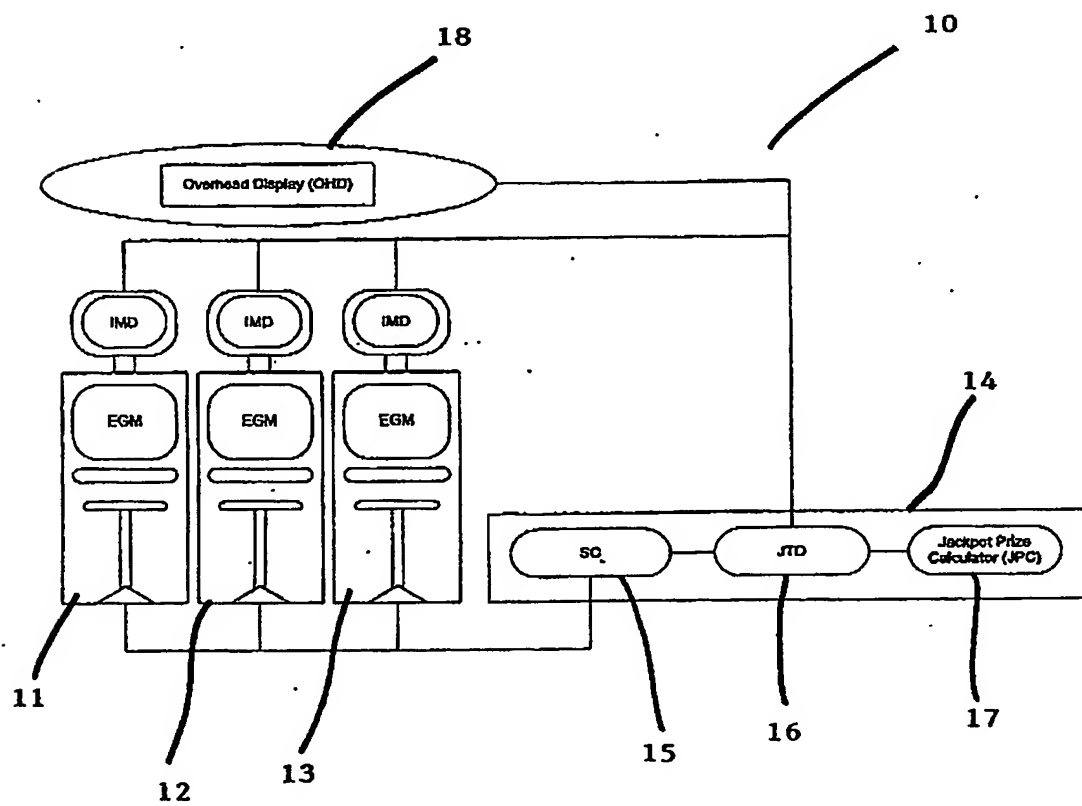


FIGURE 2

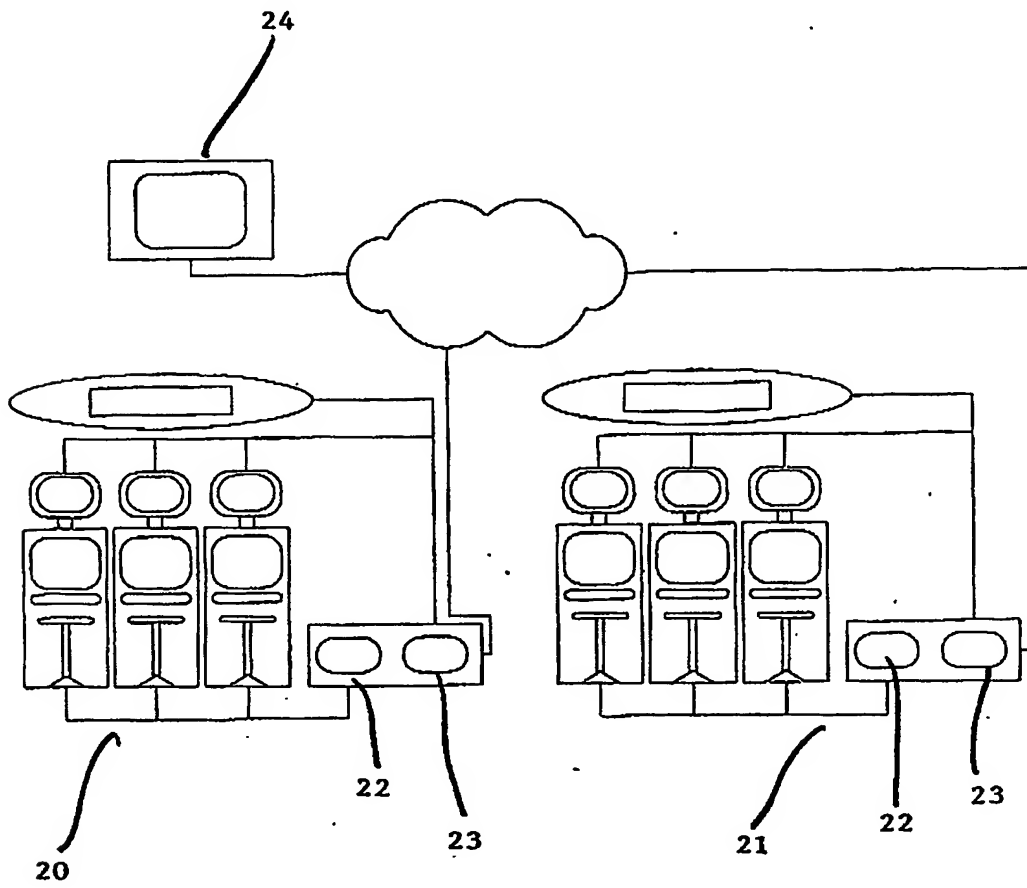
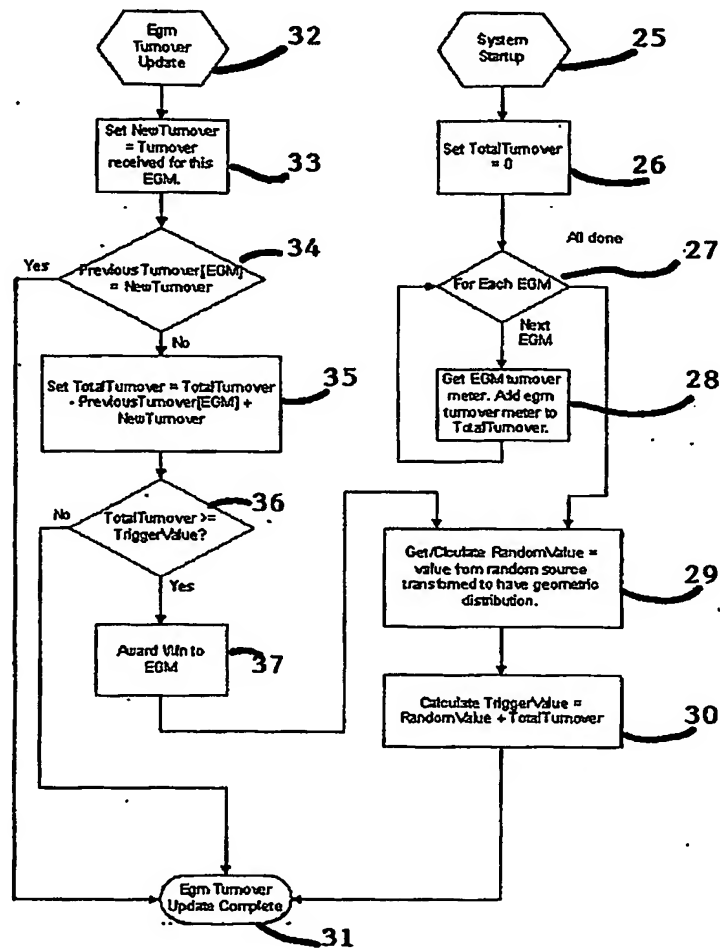


FIGURE 3



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